Operating instruction

ComuCont Dual

ComuCont Dual documentation_eg.DOC

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1 Introduction

As radio core, the ComuCont Dual contains the WaveCom WMOi3 or Siemens TC35 Engine. Besides the descriptions in this instruction the technical description on WaveCom WMOi3 is valid. Further information on parametrization and on the functions of this device can also be found in the operation instruction of the parametrization software PARACOM. All required settings are set in this software. Direct programming is not necessary or is not recommended.

2 Safety instructions

Please pay attention to the following safety instructions in order to avoid injuries of persons or damages on this product as well as on connected devices. Maintenance has to be done exclusively by qualified maintenance-staff.

2.1 Electrical safety

ⓘ Danger high voltage. Before opening, the device has to be set voltage-free. The device has to be orderly earthed before connections are set to the In- and Out-terminals.

2.2 Aircraft safety

Cellular engines can interfere with an aircraft's navigation system and its cellular network. The use of WMOi3 and TC35 Cellular Engine on board aircraft is forbidden by law. Failure to comply with this prohibition may lead to temporary suspension or permanent cancellation of cellular engine services for the person who infringes this prohibition and/or to legal action against said person.

2.3 Environments with explosive substances

a) Users are advised not to use the device in automotive service stations.
b) Users are reminded of the necessity to comply with restrictions regarding the use of radio devices in fuel depots, chemicals plants and locations where explosives are ignited.

2.4 Safety on the road

a) It is not permitted to signal incoming calls by sounding the vehicle's horn or flashing the lights.
b) Drivers are advised not to use the hand-held microphone or the telephone handset while their vehicle is in motion, except in the case of emergency. Use the handsfree facility to speak only if it does not divert your attention from the traffic.

2.5 Non-ionizing radiation

As it is the case with other mobile radio transmitters, operating personnel are advised to use the device in the normal ope-rating position only in order to ensure optimum performance and safety.

2.6 Electronics in medical equipment

Radio transmitters, including cellular engines, can interfere with the operation of inadequately protected medical devices. Please address all questions to a doctor or the manufacturer of the medical device.

2.7 Precautions in the case of loss/theft of the Cellular Engine and the SIM card

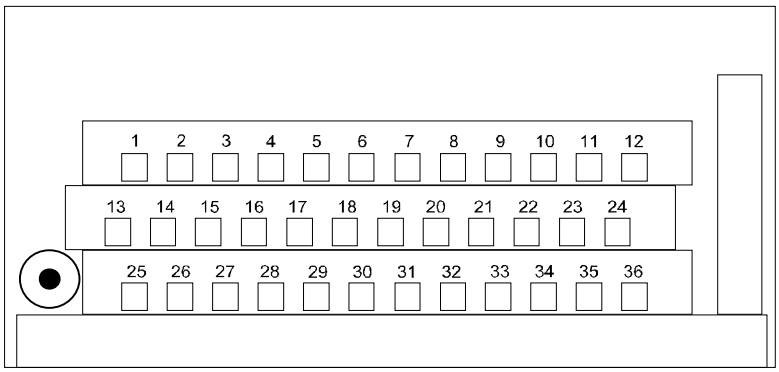
If your ComuCont DUAL, your SIM card or both go missing, notify your network operator immediately in order to avoid misuse.

3 Port

At the modem, there is a block with 36 screw terminals

- for the interface RS232
- for the interface CL (TTY) 2 and 4 wire
- for the interface RS485 and
- for the power supply

3.1 Port plan of the screw terminals



3.2 Power supply

Pin No.	Function	Pin Type
9	PE	PE
11	L1	Net
12	N	Net
21	PE	PE
22	PE	PE
23	PE	PE
24	PE	PE
35	+24V /20mA unregulated	out power
36	GND (24V)	GND power

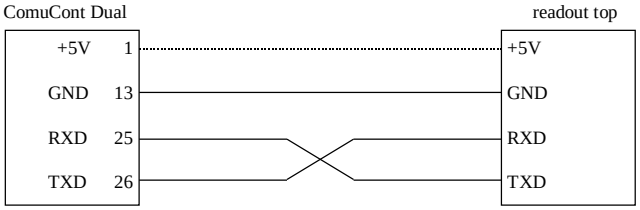
NOTE: A voltage between 90V – 260V AC/DC (50/60Hz) can be applied to the modem. The power input is typically 3.5VA (5VA max.)

3.3 RS 232 / V24 interface

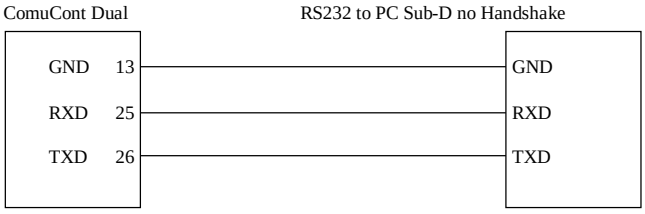
Pin No.	Function	Pin Type	PC-port SUBD-9-pole
1	Vcc / +5V	out power	-
2	/IN1		-
3	DTR	in	4
13	GND	Gnd power	5
14	IN2		-
15	RTS	In	7
25	RXD	Out	2
26	TXD	in	3
27	CTS	Out	8

NOTE !! Bridges 31-32 and 33 – 34 have to be removed of!

3.3.1 V24-port with power supply for readout top



3.3.2 V24-port to PC Sub-D 9- pole without Handshake



3.3.3 Inputs

The device desposes of two additional inputs.

1. Terminal block Pin 2. = /IN1
   Input: „L“-active in relation to GND Pin 13
   Level: TTL (Umax. +5V; Rmin. –0,3V)
   (internal in 2.2k pull up to VCC)
   ExcitationAnsteuerung e.g. via open drain driver.

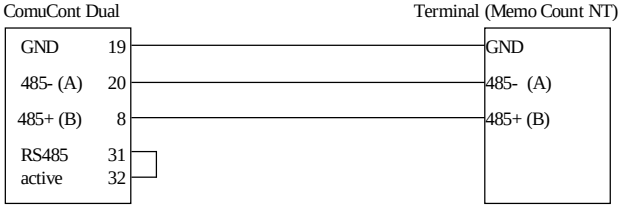
2. Terminal block Pin 14. = IN2
   Input: „H“-active in relation to GND Pin 13
   Level: RS232 (Umax. +15V; Rmin. –15V)

3.4 RS 485 interface

Pin No.	Function	Pin Type
7	+5V / 20mA	out power
8	485+ (B)	in/ out
19	GND/Potential balance	GND power
20	485- (A)	in/ out
31	GND	GND power
32	485/enable	in

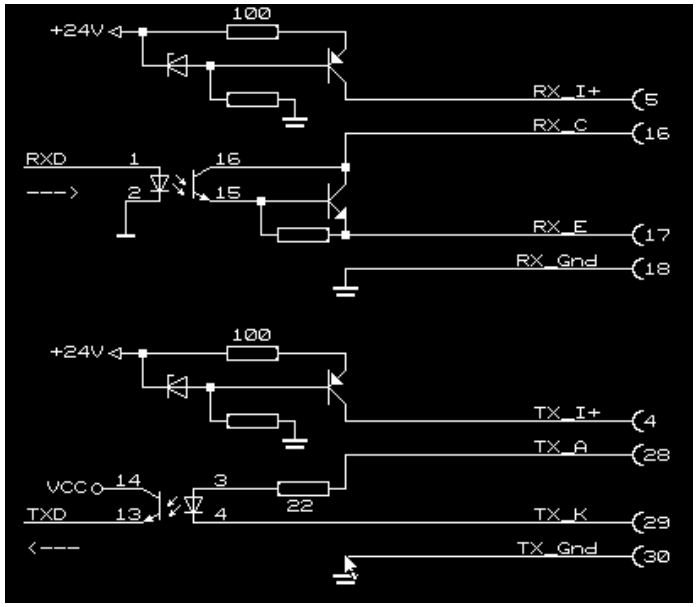
NOTE !! Bride Pins 31-32 for the activation of the RS485-interface.

3.4.1 Port RS485-to Terminal Memo Count NT



3.5 CL / TTY interface

3.5.1 Wiring plan of the CL / TTY interface



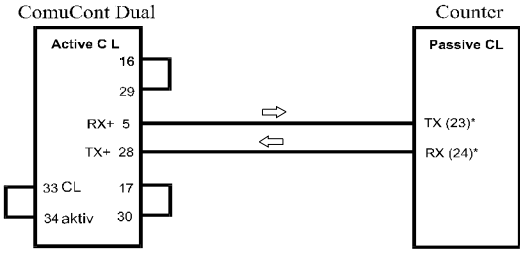
Note: In the following tables, the functions of the Pins are indicated according to the definition of a data transmission unit (DUE). If, when indicating the function (section function ..) significance is put in brackets, this is meant to be the terminal description of the data terminal to be connected (DEE – e.g. PC, Memo Count NT, ..).

3.5.2 active CL / TTY

Pin No.	Function	Function 4D-active	Function 2D-active	Pin Type
4	TX_I+	TX-24V (TX+)	Nc	out
5	RX_I+	RX-24V (RX+)	RX (TX)	out
6	+5V	+5V	+5V	out power
16	RX_C	RX+ (RX-)	Br. 16-29	out
17	RX_E	Br. 17-18	Br. 17-30	out
18	RX_G		Nc	GND power
28	TX_A	TX+ (TX-)	TX (RX)	in
29	TX_K	Br. 29-30		in
30	TX_G			GND power
33	GND	GND	GND	GND power
34	CL/enable	CL/enable	CL/enable	in

NOTE !! Bridge Pins 33-34 for the activation of the CL-interface.

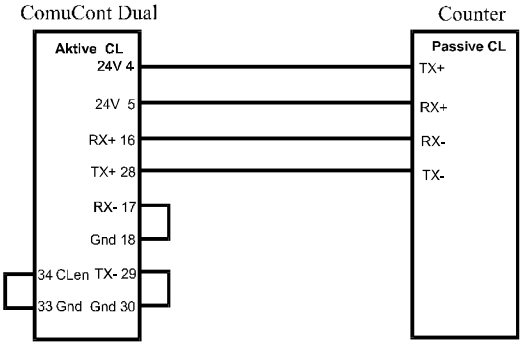
3.5.3 Port ComuCont **CL 2-wire** interface active to meter interface passive



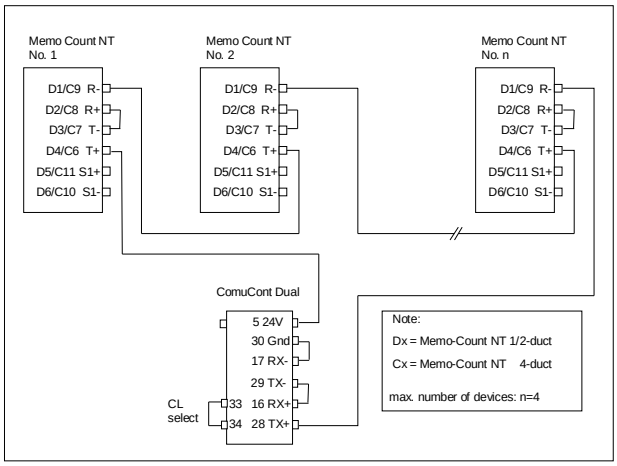
Up to 8 meters can be connected.

** to VDEW-specification 2.0*

3.5.4 Port ComuCont **CL 4-wire** interface active to meter interface passive



3.5.5 Port ComuCont **CL 2-wire** interface active to Memo Count NT devices interface passive

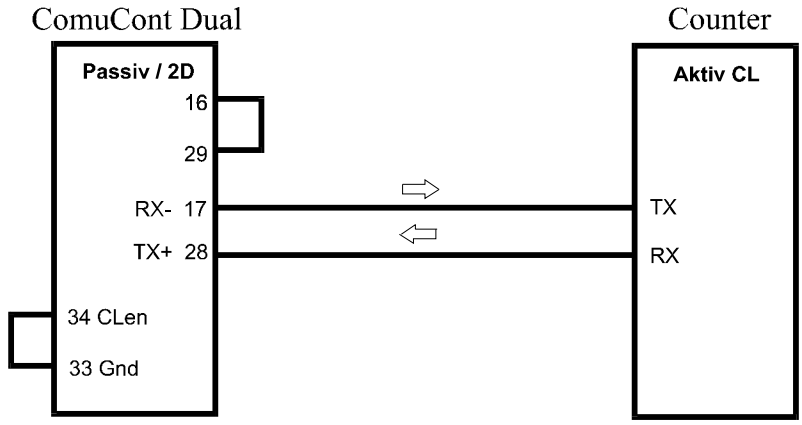


3.5.6 passive CL / TTY

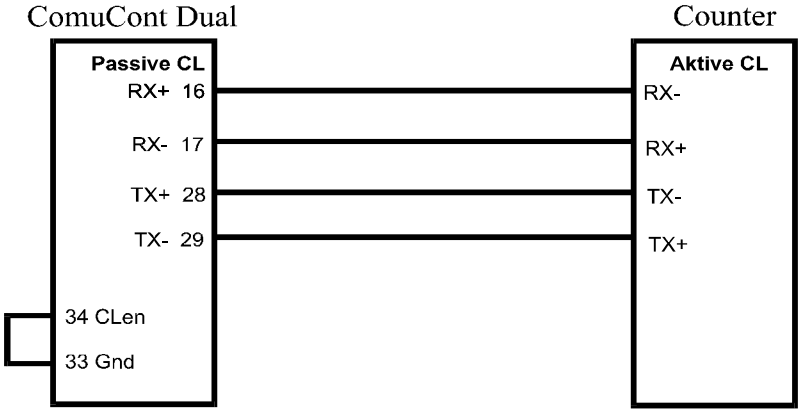
Pin No.	Function	Function 4D-passive	Function 2D-passive	Pin Type
4	TX_I+	nc	nc	out
5	RX_I+	Nc	nc	Out
6	+5V	+5V	+5V	out power
16	RX_C	RX+ (RX-)	Br. 16-29	out
17	RX_E	RX- (RX+)	RX (TX)	out
18	RX_G	Nc	Nc	GND power
28	TX_A	TX+ (TX-)	TX (RX)	in
29	TX_K	TX- (TX+)		in
30	TX_G	Nc	Nc	GND power
33	GND	GND	GND	GND power
34	CL/enable	CL/enable	CL/enable	in

NOTE !! Bride Pins 33-34 for the activation of the CL-interface.

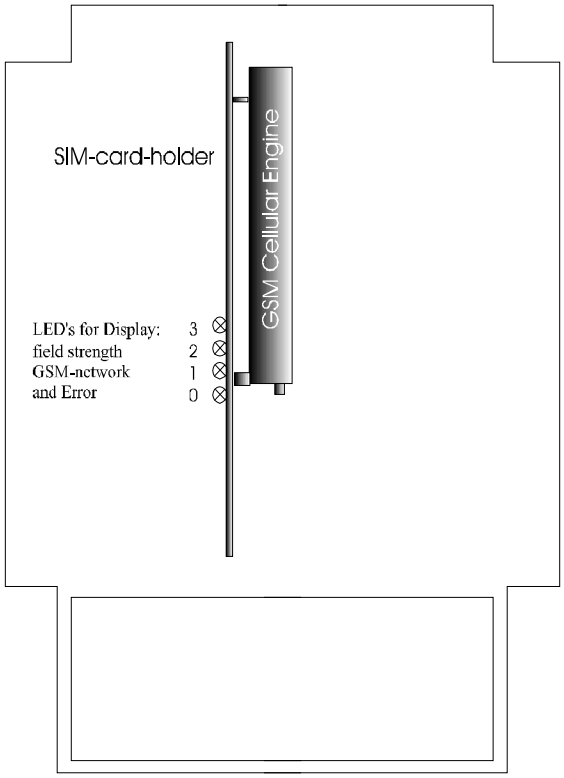
3.5.7 Port ComuCont **CL 2-wire** interface passive to meter interface active



3.5.8 Port ComuCont **CL 4-wire** interface passive to meter interface active



3.6 LEDs / SIM-card plug



3.6.1 SIM-card

Open the device lid to plug in the SIM_card. The radio-modem is installed perpendicular to the motherboard. Plug in the SIM-card into the holder labeled SIM. To open the holder device, please push the key beside it.

3.6.2 Function of the LED's

LED 1:

On: The device is registered in the radio-network, e.i. the device can be reached.

Blink: The device is not (yet) registered in the radio-network.

LED 2 and 3:

These LEDs indicate a default, the field strength of the radio-net or a modem-radio connection.

LED 2	**LED 3**	**Meaning**
Off	Off	Field strength < 8
Blinks	Off	Field strength < 10
On	Off	Field strenghth < 14
On	Blinks	Field strength < 20
On	On	Field strength >=20
Off	On	A modem radio connection exists

Note:

The field strenth can achieve a value between 1 and 31. From field strength 5 onwards, the radio-modem logs into the net.

LED 0

This LED indicates a default

Note:

The Program PARACOM displays default messages in plain text after the readout of a device.

4 Installation

For installation, proceed as follows:

1. Plug in the SIM-card
2. Plug in/Installation of the radio antenna
3. Plug in the serial ports to the terminal
4. Apply a voltage of (90-260 V AC/DC (50/60 Hz)
5. Parameterization of the device via the serial digital trunk interface by using the parameterization software

NOTE: On distribution of the devices, the internal Goldcap for the coverage of the clock module is not loaded. Therefore, time-display is lost in the case of net-off. Thus, on distribution, the device indicates a default displayed by blinking of the two upper diodes. Only after 5 – 15 minutes of coverage being applied upon, time and date remain saved during a short net-off-period. After approx. 3 hours of coverage being applied upon, the Goldcap has reached the point where tiding over a period of 30 days is possible. If there is a lack of coverage via the Goldcap during a net-off, the time is pre-adjusted to 00:00 o´clock on 01.01.1999 and a default is indicated. At the next net-on/off, in case that the Goldcap meanwhile had been loaded sufficiently, the default message will be deleted. Cancellation also results from parameterization of date or time.

NOTE: Parameterization of the device is saved on an EEPROM. If there is a lack of coverage, this does not effect these parameters.

5 ComuCont Dual-core

The functionality of the WaveCom WMOi3 Engine is extended via the ComuCont Dual-core. The core consists of a 8051 processor, an internal clock buffered via Goldcap, an EEPROM for the storage of the parameters and a RAM of 32 KB to buffer the overflow during data transmission to the control station.

5.1 Information on operation

The clock-module is buffered via a GoldCap. The parameters are saved on an EEPROM and are independant on buffering. During the initial installation or in case of long-term net-off (long-term storage) the ComuCont Dual may indicate a default during parameterization or at the clock-module. These defaults are removed by parameterization or synchronization (also see *4. Installation*).
Further defaults are registered in relation to the release (PIN-input) of the radio-module.
Defaults are indicated via blinking of the two upper LEDs. By readout of the device via the parameterization-software PARACOM, defaults may be displayed in plain text.

5.1.1 Starting the ComuCont Dual

When power is applied upon, primarily the Hardware is initialized and checked on defaults. At the same time, the radio-module is started and initialized. Then the SIM-card is checked on its status, i.e. queried on its access-code. Hereby the following options are differentiated:

1. *The PIN-number is deactivated in the card*
   *A*lso if a PIN was parameterized, no PIN-number is transferred to the card.
2. *The card asks for the PIN-nummer*
   If a PIN-number had been parameterized, it will be transferred up to twice to the card . If this twice does not result in a positive acknowledgement, the ComuCont Dual is set on default (LED2 and 3 blink). Now, the PIN-number may again be parameterized correctly. However, if it is wrong again, the card will disable and may only be activated by entering the PUK (NOTE!! At each restart or each parameterization, the PIN will be transferred twice. I.e. at this twice transmission the PIN will be disabled!).
3. *The card asks for the PUK-number or does not response*
   The device is set on default (LED2 and 3 blink). The PIN-number is no longer transferred to the card. Thus, only 1PUK-trail (of 10) is spend at maximum. The card may only be enabled manually by entering the PUK (command AT+CPIN=PUK-number, new PIN CR).

The login into the radio-net results automatically. If the ComuCont Dual must not be reachable, this automatic will be deactivated.
Initialization and checking may take up some time. Therefore, the device is only reachable serially or via the radio-net after several seconds.

5.1.2 Initializing of the radio-module

Initialization, i.e. a reset of the radio-module is implemented at the following times:

1. After net-on
2. After parameterization
3. After link via the radio path
4. In parameterized time intervall (since the last initialization)
5. If the radio-module does no longer response serially

5.1.3 Field strength display

Approx. every 3 seconds, signal-field strength is queried and displayed via LEDs 2 and 3 (see *3.6.2 Function of the* LED's). If data are transferred, however, this query is disabled (at minimum for 30 seconds).

5.1.4 Display of a radio link

As soon as a radio-modem-link is established, the function of the field strength display will be deactivated. The modem-link is displayed via the LEDs:
LED3: on
LED2: off
LED1: blinks

5.1.5 Backup

For a backup via the radio path, the protocols RLP (Radio Link Protocol) or V.42bis are taken. The use as well as the backup via the net-fixed line between net operator and control station are dependant on the net operator and on the control station (Adjustment with or without V.42bis).

5.1.6 Data format – Adjustment of the interface

In the ComuCont Dual, data format via the radio path is pre-fixed
to **8 data bits, no parity and 1 Stop bit**.
The interface to the data terminal (terminal multiplexer) can be adjusted via PARACOM. If transparent transmission is desired, the adjustment of 8 data bits, no parity and 1 stop bis has to be selected via PARACOM. Thus, a device sending e. g. on 7 data bits, even parity and on 1 stop bit, the parity bit will be jointly transferred (Exception 11bit transmission).

5.2 Additional functions

5.2.1 Restriction of call acception (Time slot)

The restriction of call acceptance can be activated completely or for a certain period per day (time from – to).

5.2.2 Code protection against unauthorized access on terminals

By entering a 8 digit code, the unauthorized access on the connected data terminals can be protected against. This code is equivalent to the ComuCont Dual – ID.
If this protection is active, the code is queried in case of a call acception. Only if this code is entered correctly, circuit switch to the data terminal is possible.
NOTE! This protection is only effective, if a code for parameterization of the device was entered, too. Otherwise this code can be read.

5.2.3 Selection of the net operator

Reguarly, indication of the net operator is not necessary. Only in areas where several net operators are located (threshold areas), this indication could be necessary. Normally, the radio-module automatically selects the net operator in the region that indicates the highest signal power. In the ComuCont Dual, it is optionally possible to indicate a net operator permanently or preferentially, also if the signal power is lower. If the net operator is indicated permanently, the device only logs into this net, i.e. in case that the signal power of the net operator is too low, login into the net is disabled. In this case the device is not reachable! In case that the net operator is indicated preferentially, but the signal of which is too low, the device logs into an external net. Approx. every 14 minutes the system checks wether the device logged into the net of the preferential net operator or if this net is generally available.

5.2.4 Automatic recall

Automatic recalls can be initiated in certain intervalls. The following intervals are available

- daily
- weekly - on a certain day of the week
- monthly – on a certain day of the month.

The recall is passed through a control station parameterized in the device. If the link is not established sucessfully (e.g. busy) the number of the next register is selected.

5.2.5 Call-note

As soon as the code protection against unauthorized access to the data terminals is activated, a call-note can be made. At the call-note, instead of the code during Login, the command for call-note including indication of the telephon register number 0-3 of the device, as well as a 8-digit acknowledgement recognition is transferred. Then the ComuCont Dual automatically hangs up and, at the earliest after 5 seconds, starts the recall to the telephon number of the selected register.

5.2.6 11bit Data transmission

Besides the standard settings of 10 bits per signal (8.1,None or 7,1,Odd) signals of 11 bits can be transferred, too. Thus, the settings such as 8 Data, 1Stopbit and Even Parity to the data terminal are possible. The transmission via the radio path/permanent net path is however only possible with 10bits. Therefore reaching 11bit signals without Parity with 8.N,1 are retransmitted by the radio-module.

5.3 Working mode conditions of the device

Information on the below indicated descriptions:

Disconnect:	There is no phone connection to another modem.
Connect:	There is a connection to another modem.
Transparent:	Data are directly (with conversion of the Baudrate and data-, Stop-, and Paritybits) retransmitted.
Parameterize:	All data are intercepted and evaluated by the processor.

5.3.1 Disconnect-Transparent-Mode

After the net-on, the ComuCont Dual is in the Disconnect-Transparent-Mode, which means, that all signals transferred to the local digital trunk interface are automatically retransmitted to the integrated modem of the ComuCont. In the same way, the Modem-response is again transmitted via the interface.

Thus, the modem can be additionally parameterized with AT-commands. This function may only be done by trained personnel!

The parameters (Baudrate, Data bits, Parity, Stopbits) of the serial digital trunk interface can be variable adjusted (see parameterization-mode).

Note: In the Disconnect-Mode no codes are active.

Via the signal sequence „$$$“, which has to be entered within one second and a signal stop of more than one second before this sequence, you get into the Disconnect-Parameterization-Mode.

5.3.2 Connect-Login-Mode

If the code for the protection against unauthorized access to the data terminals is activated, the device is in this mode after a successful connection set up via a call. In this case the device retransmits the signals to the calling control station

Login:

as command for entering the code.
There are 3 options to change the mode:

1. **Change-over to the Connect-Transparent-Mode**
   If now the 8-digit code (ComuCont – ID) with closedown <CR> is transferred to the device, this results into a change-over into the Connect-Transparent-Mode.
2. **Change-over into the Connect-Parameterization-Mode**
   Instead of the code, you can change-over into the Connect-Parameterization-Mode via the signal sequence $$$ (see Disconnect-Transparent-Mode). When closing down this Mode, the device returns into the Connect-Login-Mode.
3. **Starting of call-notes**
   When the device receives the call-note command, it hangs up automaticallly and after a short stop starts the required recall.
   Call-note command: **!Snccccccc<CR>**
   n: Telephon number register 0-3 of the ComuCont Dual
   cccccccc: Recall recognition in case of a call to the control station

   Example:
   ComuCont Dual transfers: **Login:**
   Control station transfers: **!S1abcdefgh<CR>**
   ComuCont Dual transfers: **OK <CR><LF>**
   (in case of a default there will be no response)
   After the OK, the device hangs up and starts the recall to the telephon number from register 1. The device returns with the text : **COMUDUAL/abcdefgh**
   At a recall, the device is in the Connect-Transparent-Mode.

5.3.3 Connect-Transparent-Mode

This mode is reached,
- via a telephone connection by a recall (Call-note or recall automatic)
- via a telephone connection by a call, if the Transparent-Mode is not protected by a code

or
- via the Connect-Login-Mode.

In this mode, the control station can directly communicate with the terminal. Via the sequence „$$$“ (see Disconnect-Transparent-Mode) one can change-over into the Connect-Parameterization-Mode. However, this is only recommended with a 8.1,None connection.

5.3.4 Connect-Parameterization-Mode / Disconnect-Parameterization-Mode

Regularly this mode is reached via the signal sequence „$$$“ (see Disconnect-Transparent-Mode). In this mode, the following indicated commands can be transferred to the ComuCont Dual. In case of remote parameterization, however, writing as well as reading of the ComuCont-ID is disabled when the parameterization-code is activated. Disabling can be opened via the command **L**.
Exit the mode via the command Q (see parameterization).

5.4 Required settings/Information for the control station

The control station has 3 possibilities to transfer data to or from a data terminal connected to a ComuCont Dual:

1. No code for the Transparent-Mode is active
   The ComuCont Dual reacts like a modem customary in trade. No special commands or settings are necessary.
2. The code for the Transparent-Mode is active
   a. After receipt of the signal sequence, the control station transfers **Login:** the 8-digit code. If a wrong code is entered, the ComuCont Dual stops the modem connection.
   b. The control station requires a recall (see call-note). No code is required, however the correct telephone register number (0-3).

Example to 2a
Set ComuCont-ID: **0815-abc**
ComuCont Dual transfers: **Login:**
Control station transfers: **0815-abc<CR>**
ComuCont Dual transfers: **OK <CR><LF>**
(in case of a default there will be no response)
Example to 2b
ComuCont Dual transfers: **Login:**
Control station: **!S1abcdefgh<CR>**
ComuCont Dual transfers: **OK <CR><LF>**
(in case of a default there will be no response)

The ComuCont Dual hangs up and recalls after a short stop
ComuCont Dual transfers: **COMUDUAL/abcdefgh<CR><LF>**
ComuCont Dual changes over into the Transparent-Mode
Note: In telephone register 1 the telephone number of the control station has to be deposited!

General Information
Concerning the Baudrate, the adjustment of the interface at the control station is independant from the adjustment of the data terminal. However it is important to see to it, that no overflows occur owing to too big Baudrate-differences. Among others, this can be avoided by Handshake-procedures. For the adjustment of the data bits and the Parity, please read paragraph *5.1.6 Data format – Adjustment of* the interface

5.5 Parameterization

Parameterization is done line-oriented, i.e. a command line has to be closed down by CR. Thte ComuCont Dual requires the entry with a „:“-Prompt at the start of the line. The settings have to be saved via the SAV-command in the EEPROM. Otherwise the changes are rejected.

5.5.1 Commands

Command-Format	Effect	Default value
WNAxxxxxxxx	Sets the 8-digit ComuCont-ID / Transparent-code. This ID is transfered to the control station in case of a timer-controlled recall (COMUDUAL\comu-id)	00000000
RNA	Reading of the ComuCont-ID.	
WNPxxxx	Setting of the 4-digit PIN of the SIM-card. With 4 blanks, the PIN is deleted.	blank
RNP	Reading of the 4-digit PIN (4 blanks = deactivated)	
WDLn	Sets the 8-digit ComuCont-ID into transparent-mode -code active (n=1)/inactive (n=0)	0
RDL	Reading of the activation recognition	
RVE	Readout of Firmware Version: CWAV0A00 V1.00	
RER	Reading of the current default number (Decimal number) BIT Information 0 Parameter default – parameterized with PARACOM 1 EEPROM-default – Hardware-default 2 Clock-default – set time with PARACOM/Hardware-default 3 PUK query/no answer from the radio-module – release via PUK 4 Parameterized PIN is unvalid. 5 Radio-Module queries for PIN, however this was not yet parameterized 6 RAM-default – Hardware-default	
WZEhh:mm:ss	Sets the internal time	
RZE	Output of the current time in the next line in format hh:mm:ss	00:00:00
WDATT:MM:JJ	Setting the current date of the real-time-clock	01.01.99
RZE	Output of the current date in the next line in format TT:MM:JJ	
WCO<baud>,<db>,<stop>,<parity>	Sets the settings of the serial digital trunk interface. Example: WCO9600,8,1,N For <baud> the values 300, 600, 1200, 2400, 4800, 9600 are possible For the number of data bits <db> the values 7, 8 are possible. For the number of Stop bits <stop> the values 1,2 are possible For the <parity> the values N, E, O are possible.	9600,8,1,N
RCO	Output of the current communication-adjustment in the next line in format <baud>,<db>,<stop>,<parity>.	
RMR	Reading of the radio-module-reset intervalls in minutes (0-9999). In the indicated intervall the radio-module is restarted (RESET) – then the module re-logs into the radio-net.	
WMR	Setting of the radio-module-reset intervall in minutes (0-9999). If the value 0 is indicated, the function is de-activated.	421
WS0n	Setting the number of ringing signals (n=1-9) before call acception	1
RS0	Reading of the set number of ringing signals	
WRAhh:mm-hh:mm	Setting of a time domain (from – to), within which the ComuCont Dual accepts a call. The domain can also surpass midnight (e.g.: WRA23:00-02:00)	00:00-24:00
RRA	Output of the current call-acception-time domain in format hh:mm-hh:mm	
WRRwMMhh:mm	Sets the time and intervall at which the ComuCont Dual automatically starts a recall (00000:00 : recall is inactive). ***w*** : indicates the day of the week on which the recall is to be realized 0=Mo, 1=Tue a.s.o.; * does not mean weekly ***MM***: Recall-day of the month [1..31]; ****** does not mean monthly ***hh:mm***: Recall-hour[0..23] – recall-minute [0..59] Example: **WRR*0112:00** (recall on each first of the month at 12:00) **WRR2**23:00** (recall on each Wednesday at 23:00) **WRR***06:30** (recall daily at 06:30)	00000:00
RRR	Output of the recall-intervall in format wMMhh:mm (see above).	
WRVxx	Sets the number of recall trails (xx=0..30). Between these recalls, the system pauses for 1minute, respectively.	1

Command-Format	Effect	Default value
RRV	Output of the number of recall-trails in the next line.	
WHAx	Selection of the radio-net **x:** 0 = any operator 1,3 = operator indicated with WHI angegeben wurde 2,4 = local-net resulting from the IMSI-number For x= 1,2 applies: if the desired net-operator does not exist/disabled, another net may be selected. The desired net is being searched for every 14 minutes. For x = 3,4 applies: The indicated net is logged-in exclusively.	0
RHA	Readout of the radio-net indication (see WHA)	
WHIxxxxx	5-digit location-dialing code of the desired net operator (MCC + MNC)	Blank
RHI	Readout of the 5-digit defined location-dialing code	
RHH	Readout of the 5-digit local-net-location-dialing code of the SIM-card	
RHL	Readout of the 5-digit location-dialing code of the logged-in net	
WCHx	Activate RTS/CTS-Handshake at the digital trunk interface (x=1) or de-activate (x=0)	0
RCH	Reading of the Handshake settings	
WDPpwd	Sets a code for parameterization via a modem. The code **pwd** can have 6 marks at maximum. For de-activation, WDP is transferred without pwd.	Blank
Lpwd	Realizes a Login with code **pwd** (only necessary via modem)	
SAV	Backup of the current settings on EEPROM	
Q	Exits from the parameterization mode and activates the settings from the backup in EEPROM. If there is a modem connection, the settings are only activated after hanging up.	
WPRESET	This command resets all settings (PRESET). Then, the internal RAM, the EEPROM and the clock-module are checked. The result is delivered in decimal numbers (also see RER-command) BIT Information 0 no meaning 1 EEPROM-default 2 Clock-module-default 6 RAM-default – Hardware-default NOTE!! All parameters are reset, i.e. so far parameterization loses ist effect. The PRESET-values only become correctly active at the next net-on.	

5.5.2 Messages

Default 1:	invalid command
Default 2:	default during backup of the parameters
Default 3:	invalid code
OK:	command ok

6 Technical data

Serial interfaces

- V24/RS232
- RS485 or
- CL (TTY 20mA) 2- or 4-wire - active or passive - according to EN 61107

Coverage of external devices

- + 24V / 20mA (unregulated)
- +5V / 20mA

Modem functionalilty

- Radio-Module WMOi3 or TC35 for 900/1800 MHz nets (e.g. D1, D2, E) - initial coverage 2W
- Data transmission with 9.600 Baud (V.42bis)
- Commands according to AT-Hayes

System

- RTC-real time clock with running-reserve of 35 days via Goldcap
- Processor for control (8031 Derivat)

Version

- Sealable device – installation
- as field set-up housing
- on top hat rail
- on counter standard lid or
- with three-point fixing
- The terminals are suited for 2.5mm²

Housing

- Impact resistant plastic – protection type IP50
- Temperature resistant up to 65° C

Operating coverage

- 90 to 260 V AC/DC, (50/60 Hz)

Line voltage

- Typically 3.5 VA. (5 VA max.)

Environmental temperature

- -10°C to +50°C

Storage temperature

- -25° C to +65° C

Humidity

- 5% to 90% R.H.(non-condensing)

Specifications / Standard

HF-irradiation:
according to IEC/EN 61000-4-3, 3V/m.
Interference immunity against electro-static discharge, ESD:
according to IEC/EN 61000-4-2, intensity grade 3.
Interference immunity against quick transient sizes, burst:
according to IEC/EN 61000-4-4, intensity grade 4.
Interference immunity against energy-strong transient sizes, Surge:
according to IEC/EN 61000-4-5, intensity grade 3
Interference transfer:
according to EN 55022/B
Net interrupt:
according to EN 61000-4-11, 100%/1s

The device corresponds to the CE –regulations (EN60950, 89/336/EC, 73/23/EC)
Furthermore the indications and regulations of the Technical description for WaveCom WMOi3 and SIEMENS TC35 are applicable.
Production according to ISO 9002
We reserve the right for technical changes.